

REMARKS

Claims 1 – 4 and 6 – 20 are now pending in the application. Amendments have been made to Claims 1, 6, 8, 9, 14, 15 and 18. Claim 20 is new. Claim 5 has been cancelled without prejudice to or disclaimer of the subject matter contained therein. Support for the new and amended claims can be found throughout the specification as filed and, as such, no new matter has been added. Examples of support for the new and amended claims can be found at least in Figures 3, 5, 13, 15 and 16; Paragraphs 0015, 0016, 0043, 0071, 0074, 0090 and 0094 and the Abstract, as published in United States Patent Application 2004/0025674.

Applicants respectfully submit that the amendments to the Claims and new Claim 20 either place the application in condition for allowance and/or are specifically in response to items set forth in the previous office action, in accordance with MPEP § 714.12 and 37 C.F.R. §1.116. As such, the Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

CONTACT WITH EXAMINER

Applicants thank the Examiner for the many courtesies extended during the telephonic conversations on March 24, 2006 and April 18 and 28, 2006. The Claims and the Broadmoore reference were discussed. While no formal agreements were reached, the Examiner generally indicated that Broadmoore may not teach plural holes formed through a second portion of the key bed, when a first portion of the key bed associated with a rear rail and the second portion of the key bed associated with the above plural

holes are equally as thick.

REJECTIONS UNDER 35 U.S.C. § 112

Claim 5 under § 112, Paragraph 2

Claim 5 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicant regards as the invention. Applicants have canceled claim 5, thus respectfully rendering this rejection moot.

Claims 1 – 19 under § 112, Paragraph 1

Claims 1 – 19 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. With regard to Claims 1 – 14, Applicants have amended Claim 1 thus respectfully rendering the rejection of Claim 1 and dependant Claims 2 – 13 moot. This rejection, with regard to Claims 14 – 19, is respectfully traversed.

The specification states that the actuator holder SU1 includes rigid circuit boards DB, and the rigid circuit boards DB are bolted to the side walls SPW of the channel bar SP1. See Paragraph 0055, United States Patent Application 2004/0025674. Each of the actuator holders SU1 includes a channel bar SP1 and a center plate SP2. The center plate SP2 is assembled with the channel bar SP1, and the solenoid-operated key actuators AC1 are secured to the center plate SP2. See Paragraph 46. The center plate SP2 laterally extends between the two rows of plunger holes AP, and the channel bar SP1 is secured to the lower surface of the key bed KB1 by means of screws N. *Id.*

The automatic playing system 10B includes an array HMM of solenoid-operated key actuators AC, a holder SU and a controller (not shown). See Paragraph 0008. The holder SU is secured to the key bed KB, and keeps the array HMM under the rear portions of the black and white keys AC. *Id.* The key beds correspond to the bottom board. See Paragraph 0098.

For at least the above reasons, Applicants respectfully submit that Claim 14 contains subject matter that has been described in the specification in such a way to at least reasonably convey to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention. Claims 15 – 19 depend on Claim 14 and, as such, the discussion of Claim 14 is equally applicable to Claims 15 – 19.

REJECTION UNDER 35 U.S.C. § 102

Claims 1 – 19 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Broadmoore (U.S. Pat. No. 5,081,893, hereinafter Broadmoore). This rejection is respectfully traversed.

With regard to the now amended Claim 1, Applicants claim a case having a bottom board defining a bottom of the case. The bottom board has a first portion and a second portion, wherein the second portion is generally equal in thickness to the first portion and the second portion is formed with plural holes. A rear rail is provided on the first portion of the bottom board. With regard to Claim 14, Applicants claim determining hole-forming portions of a second portion of the bottom board, the second portion being equal in thickness to a first portion, the bottom board having a surface from which a side

wall extends and forming holes through the hole-forming portions by using the tool. The Examiner indicates that Broadmoore anticipates Claims 1 – 19.

As best understood by Applicants, Broadmoore discloses player piano and specifically a key bed of the player piano through which a large channel is formed, as shown in Figure 2 below. A large metal tray, as shown in Figure 1 below, is placed in the channel. The metal tray is configured with a plurality of holes that receive respective solenoids from which associated plungers extend to play the player piano. As seen in Figure 2, the metal tray is plainly a different thickness than the keyboard and resides in the large channel formed through the entire key bed.

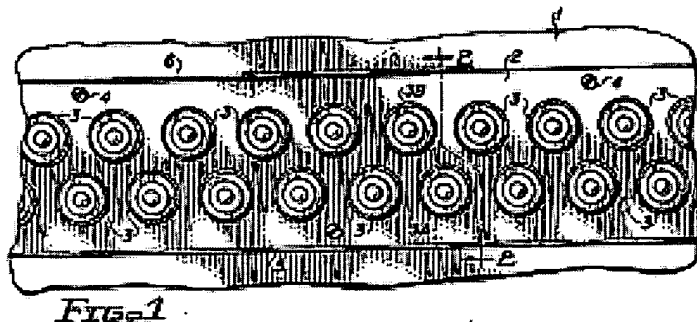


Figure 1 – Broadmoore

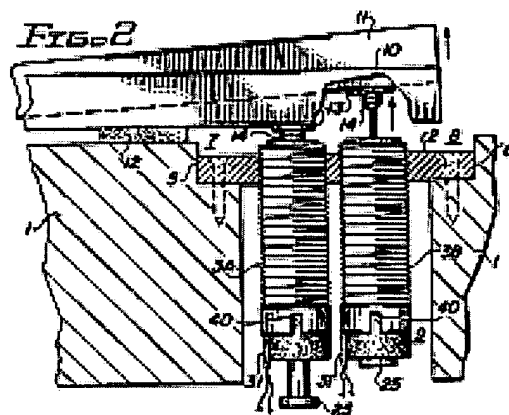


Figure 2 - Broadmoore

With regard to Claim 1, Applicants respectively submit that Broadmoore does not anticipate at least the limitations that the bottom board has a first portion and a second portion, wherein the second portion is generally equal in thickness to the first portion and the second portion is formed with plural holes. A rear rail is provided on the first portion of the bottom board. In contrast, the key bed or the bottom board in Broadmoore is gouged to accommodate the metal slot.

As defined in the independent claims, the "first portion" is defined in relation to the "rear rail" and the "second portion" is defined in relation to the "plural holes," which, in turn, is defined in relation to the "plural actuators." Arguendo, we can assume with reference to Figure 2 of Broadmoore above that the "backrail felt 12" laterally extends under the keytails 10 and 11 so that it would appear that the "backrail felt 12" corresponds to the *rear rail*. See Column 6, Lines 45 – 62. As a result, the "grand piano keyboard 1" corresponds to the *first portion*. Moreover, the "striker solenoids 3A and 3B" pass through *apertures*, respectively, and the *apertures* are formed in the "mounting plate 2." *Id.* As a result, the "mounting plate 2" corresponds to the *second portion*.

According to the present invention, the first portion is approximately equal in thickness to the second portion, and the second portion is formed with plural holes in contrast to the wide slot of the admitted prior art and the "channel" formed in the "keyboard 1" in Broadmoore. In the present invention, the portions of the key bed retained between the holes can reinforce the "key bed." Because the portions between the holes are sufficiently thick, the reduction in strength of key bed is not serious.

In Broadmoore, the "key bed 1" is formed with the "channel." Although the "mounting plate 2" may reinforce the "keyboard 1" inside the "channel," the "mounting plate 2" is much thinner than the "keyboard 1." As a result, the reduction in strength of the "key bed 1" can become serious because the channel formed in the key bed reduces the structural rigidity of key bed increasing its propensity to flex. Flexing of the key bed may lead to a less desirous feel of the piano keys when played by a human player.


For at least the above reasons, Applicants respectfully submit that Broadmoore does not anticipate Claims 1 and 14. Claims 2 – 13 and 15 – 19 depend on Claims 1 and 14, respectively, and, therefore, Broadmoore does not anticipate the dependant claims for at least the above reasons. For purposes of this discussion, Claim 20 includes similar limitations to Claims 1 and 14 and should be allowable for at least the above reasons.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Final Office Action and the present application is believed to be in condition for allowance. Thus, prompt and favorable consideration of this after final amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is always invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: May 22, 2006

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